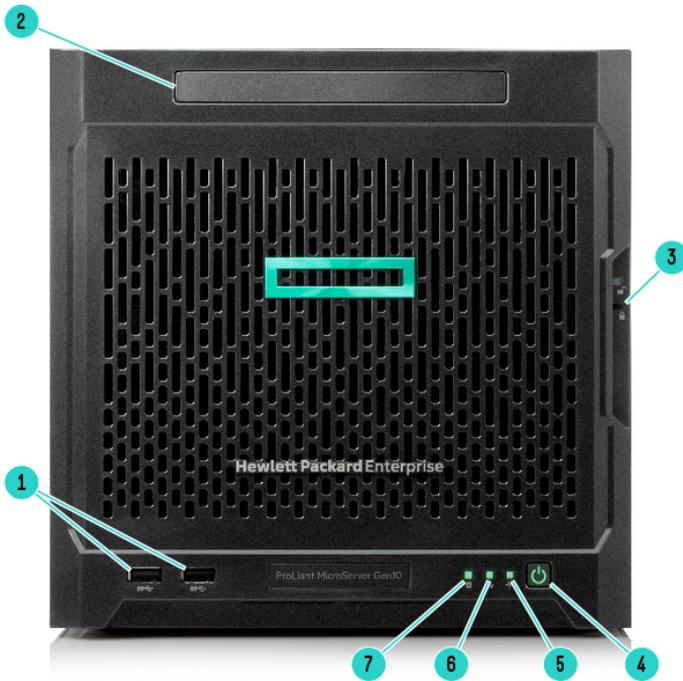


Overview

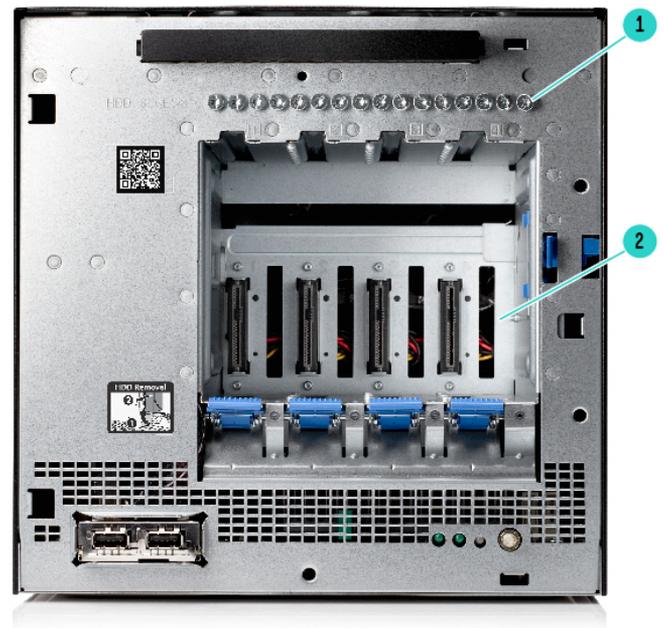
HPE ProLiant MicroServer Gen10

HPE ProLiant MicroServer Gen10 is a compact and uniquely designed server that is ideal for small and home offices looking to build their first IT server environment with a form factor that is easy to use. HPE MicroServer Gen10 helps businesses to provide better and easy access to data, more efficiency in operations, while driving down their operating expenses.



Front View (External):

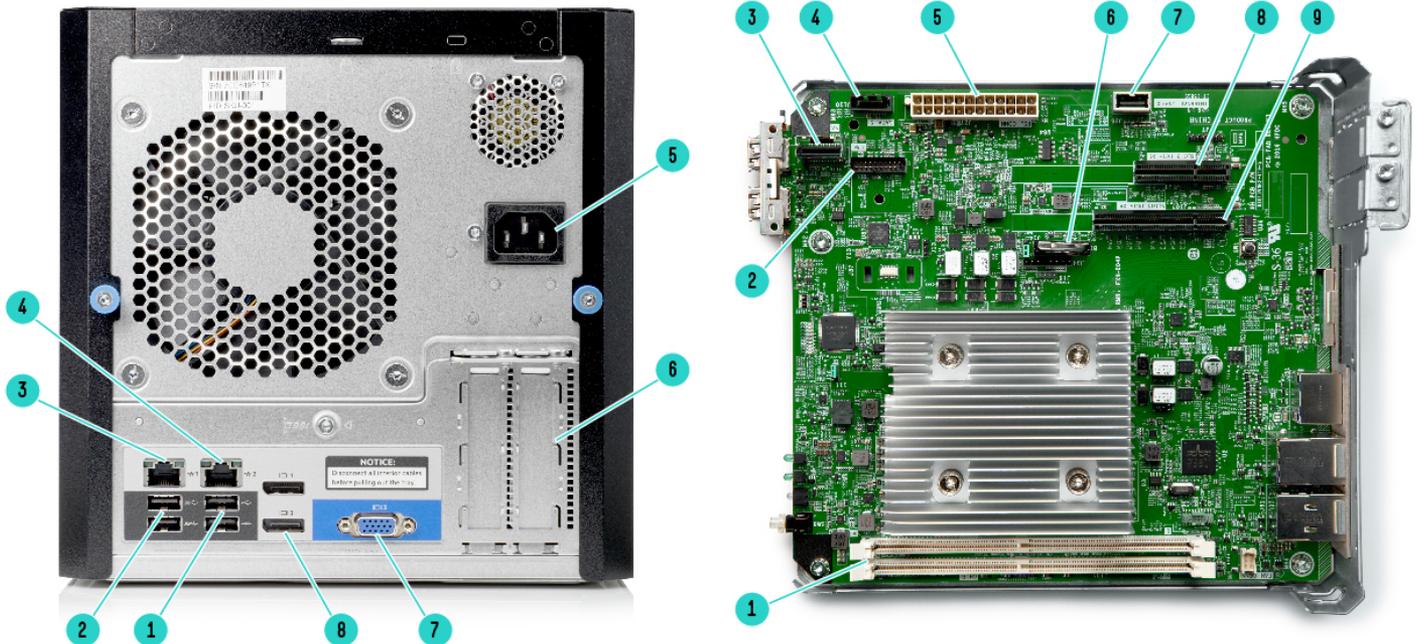
1. (2) USB 3.0 ports
2. Media bay (Optional (1) DVD-RW or (1) SATA SSD)
3. Front bezel lock/unlock indicators
4. Power on/Standby button and system power LED
5. Health LED
6. NIC status LED
7. Drive activity LED



Front View (Internal):

1. Hard drive screws
2. Hard drive bays

Overview



Rear View:

1. (2) USB 2.0 ports
2. (2) USB 3.0 ports
3. NIC 1 port
4. NIC 2 port
5. Power jack
6. PCIe Gen3 slots
7. VGA port
8. (2) Display Ports 1.2

Internal View:

1. DIMM slots
2. TPM connector
3. LFF/SFF SATA connector
4. SATA connector
5. System board power connector
6. System battery
7. Internal USB 2.0 port
8. Expansion slot 2, PCIe3 x4 (1)
9. Expansion slot 1, PCIe3 x8 (8, 4, 1)

What's New

New Option Kits Support

- AMD Radeon™ Pro WX 2100 Graphics Card
- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Ethernet 10Gb 2-Port 521T Adaptor
- HPE 240GB SATA Read-Intensive SFF Raw SSD

New Operating Systems Support

- Red Hat Enterprise Linux 7.4

Standard Features

Processor	AMD Opteron™ X3216 Processor (1.6-3.0GHz/2 compute cores/4 graphic cores/1MB/12-15W) AMD Opteron™ X3421 Processor (2.1-3.4GHz/4 compute cores/8 graphic cores/2MB/12-35W)					
Cache Memory	2MB (1 x 2MB) L2 Cache NOTE: For X3421 processor. 1MB (1 x 1MB) L2 Cache NOTE: For X3216 processor.					
Memory Protection	ECC					
Memory	Type	HPE Standard Memory DDR4 Unbuffered (UDIMM)				
	DIMM Slots Available	2				
	Standard	8GB (1 x 8GB) PC4-2400T DDR4 UDIMM				
	Maximum	32GB (2 x 16GB) PC4-2400T DDR4 UDIMM				
	NOTE: HPE memory from previous generation servers are not fully compatible with the HPE ProLiant MicroServer Gen10.					
	NOTE: Only the SKUs with X3421 processor support memory speed up to 2400 MT/s.					
	NOTE: SKUs with X3216 processor only support up to 1600 MT/s memory speed.					
Network Controller	Embedded Broadcom BCM5720 Dual Port Gbe LOM					
Expansion Slots	Expansion Slot #	Technology	Bus Width**	Connector Width	Form Factor	Notes
	1	PCIe 3.0	X8	X8	Low Profile	Open-end connector to support up to x16 PCIe card
	2	PCIe 3.0	X1	X4	Low Profile	Open-end connector to support up to x16 PCIe card
Storage Controller	The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the HPE Smart Array Gen10 Controllers Data Sheet .					
	Embedded Storage Controller	Marvell 88SE9230 PCIe to SATA 6Gb/s Controller				
	NOTE: Supports RAID 0/1/10 only. No FBWC support.					
	Essential RAID Controller	HPE Smart Array E208i-p SR Gen10 Controller				
	NOTE: Supports RAID 0/1/5/10. No FBWC support.					
Internal Storage Devices	Optical Drive	Optional: SATA DVD-RW drive Optional: SATA SSD				
	Hard Drives	None ship standard				
	Solid State Drives	None ship standard				
Maximum Internal Storage	Non-hot plug SATA	16TB (4 x 4TB) 3.5" SATA				

Standard Features

Interfaces	<p>Video 1 Rear VGA port 2 Rear Display ports 1.2</p> <p>USB 2.0 Ports 3 total (2 rear, 1 internal)</p> <p>USB 3.0 Ports 4 total (2 rear, 2 front)</p> <p>Network RJ-45 (Ethernet) 2</p>
Industry Standard Compliance	<p>ACPI V5.0 Compliant</p> <p>PCIe 3.0 Compliant</p> <p>PXE Support</p> <p>WOL Support</p> <p>EMC Class B</p> <p>USB 2.0</p> <p>USB 3.0</p> <p>SATA 6Gb/s</p>
Server Power Cords	<p>All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the ProLiant Power Cables web page.</p>
Power Specifications	<p>To review the power requirements for your selected system, please use the HPE Power Advisor Tool located at http://www.hpe.com/info/hppoweradvisor.</p> <p>NOTE: See Technical Specifications section at end of QuickSpecs for Power Specifications.</p>
Power Supply	<p>One (1) 200 Watts non-hot plug, non-redundant Power Supply</p>
System Fans	<p>One (1) non-redundant system fan shipped standard</p>
Operating Systems and Virtualization Software Support for ProLiant Servers	<p><u>Microsoft Windows Server 2012 R2</u></p> <p><u>Microsoft Windows Server 2016</u></p> <p><u>Red Hat Enterprise Linux (RHEL) 7.4</u></p> <p><u>ClearOS</u></p> <p>NOTE: ClearOS, an easy to use OS with an application marketplace, allows you to build a fully functional server that is just right for you at no upfront cost. It is available via download.</p> <p>NOTE: HPE ProLiant servers with ClearOS give you a simple, secure, and affordable operating system with an intuitive web based graphical user interface that provides a cloud-like experience on- premise, and an Application Marketplace with over 100 apps and growing. Whether you're starting out or scaling, you decide what applications you need and pay as you grow. To learn more on what you can do, please visit http://www.hpe.com/servers/clearos</p> <p>NOTE: For more information on The Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: https://www.hpe.com/us/en/servers/server-operating-systems.html#OperatingSystems and our driver download page: http://www.hpe.com/downloads/microservergen10</p>
Form Factor	<p>Ultra Micro Tower</p>

Service and Support

Service and Support	<p>HPE Pointnext for Industry Standard Servers</p> <p>HPE Pointnext delivers confidence, reduces risk and helps customers realize agility and stability. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.</p> <p>Protect your business beyond warranty with HPE Packaged Support Services</p> <p>HPE Packaged Support Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.</p>
Optimized Care	<p>Supports maintaining servers at optimum performance availability</p> <p>Foundation Care 24x7, three-year Packaged Support Service</p> <p>HPE Foundation Care 24x7 connects you to HPE 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed. Simplify your support experience and make HPE your first call for hardware or software questions.</p> <p>https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en</p>
Standard Care	<p>Supports maintaining high level of server availability</p> <p>Foundation Care NBD, three-year Packaged Support Service</p> <p>HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues – features next business day hardware onsite response if needed and software call back within two hours. Simplify your support experience and make HPE your first call for hardware or software questions.</p> <p>https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en</p>
Related Services	<p>HPE ProLiant Server Hardware Installation</p> <p>Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.</p> <p>https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf</p>
Parts and Materials	<p>Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.</p> <p>Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.</p> <p>The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.</p>
For more information	<p>To learn more about HPE ProLiant servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner, or visit:</p> <p>https://www.hpe.com/us/en/services/operational.html</p>

Pre-configured Models

	WW Entry BTO Model
[SKU Number]	870208-xx1
Processor	(1) AMD Opteron™ X3216 (1.6-3.0GHz/2-core/1MB/12-15W) Processor
Memory	8GB (1 x 8GB) PC4-2400T DDR4 UDIMM NOTE: Total of 2 DIMM slots. With X3216 processor, memory speed only gets up to 1600 MT/s.
Network Controller	Embedded Broadcom BCM5720 Dual Port 1Gbe LOM
Storage Controller	Embedded Marvell 88SE9230 SATA controller
Hard Drive	1TB (1 x 1TB) LFF NHP SATA HDD
Internal Storage	4 LFF NHP SATA HDD cage
Optical Drive Bay	None ship as standard
PCI-Express Slots	2 standard (Low Profile) PCIe 3.0
Power Supply	(1) 200W Non-Hot Plug, Non-Redundant Power Supply
Fans	(1) Non-redundant system fan ships standard
Operating System	ClearOS preloaded NOTE: ClearOS, an easy to use OS with an application marketplace, allows you to build a fully functional server that is just right for you at no upfront cost. To learn more on what you can do, please visit: http://www.hpe.com/servers/clearos
Form Factor	Ultra Micro Tower
Warranty	Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response

Country Code Key	xx = 00	Americas
	xx = 29	Japan
	xx = 37	APJ
	xx = 42	EMEA
	xx = AA	China

Core Options

HPE Unique Options	HPE MicroServer Gen10 SFF NHP SATA Converter Kit	870213-B21	
	NOTE: This kit works to accommodate your SFF NHP HDD into the LFF NHP drive cage.		
	HPE MicroServer Gen10 Slim SFF SATA Enablement Kit	870212-B21	
	NOTE: This kit works to accommodate your SFF NHP SSD into the media bay. MicroServer Gen10 is now qualified with HPE 240GB SATA RI SFF RW DS SSD (875507-B21)		
<hr/>			
HPE Memory	Unbuffered with ECC DIMMs (UDIMMs)		
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862974-B21	
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit	862976-B21	
	NOTE: Only the SKUs with X3421 processor support memory speed up to 2400 MT/s. NOTE: SKUs with X3216 processor only support up to 1600 MT/s memory speed.		
<hr/>			
HPE Optical Drives	HPE 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive	726536-B21	
	HPE 9.5mm SATA DVD-RW JackBlack G9 Optical Drive	726537-B21	
<hr/>			
HPE Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.		
	NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.		
	6G SATA Non-Hot Plug LFF (3.5-inch) Standard (MDL) Drives		
	HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21	
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801884-B21	
	HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21	
	6G SATA Non-Hot Plug LFF (3.5-inch) ETY HDD		
	HPE 4TB SATA 6G Entry 5.9K LFF (3.5in) RW 1yr Wty HDD	815635-B21	
	6G SATA Non-Hot Plug LFF (3.5-inch) STY HDD		
	HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843270-B21	
	6G SATA Non-Hot Plug LFF (3.5-inch) ETY HDD		
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843268-B21	
	HPE 1TB SATA 6G Entry 7.2K LFF (3.5in) RW 1yr Wty HDD	843266-B21	
	HPE 500GB SATA 6G Midline 7.2K LFF (3.5in) RW 1yr Wty HDD	843264-B21	
	NOTE: Please see the HPE Hard Drives QuickSpecs for Technical Specifications and additional information.		
	<hr/>		
	HPE Solid State Drives	HPE 240GB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	875507-B21
NOTE: Please use HPE MicroServer Gen10 Slim SFF SATA Enablement Kit (870212-B21) to accommodate this SFF SSD into the media bay.			

Core Options

HPE Networking	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HPE Ethernet 10Gb 2-port 521T Adapter	867707-B21

NOTE: Please see the related **NIC QuickSpecs** for Technical Specifications and additional information.

NOTE: The HPE PCIe adapters listed here can only support Server OSes.

HPE Computation and Graphics Accelerators	HPE AMD Radeon Pro WX2100 Graphics Accelerator	Q1P47A
	NOTE: It adds additional graphics power to the native capability of the server as well as providing additional 2 mini-DisplayPort™ and 1 DisplayPort™ 1.4.	

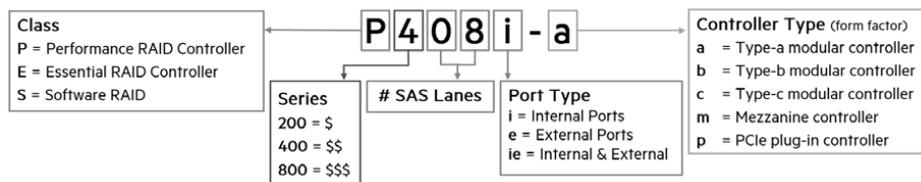
For additional information:

<https://pro.radeon.com/en-us/product/wx-series/radeon-pro-wx-2100/>

Additional Options

HPE Security	<p>HPE Trusted Platform Module 2.0 Kit</p> <p>NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys.</p> <p>NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.</p>	745823-B21
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HPE Smart Array Controllers The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the [HPE Smart Array Gen10 Controllers Data Sheet](#).



Essential RAID Controllers

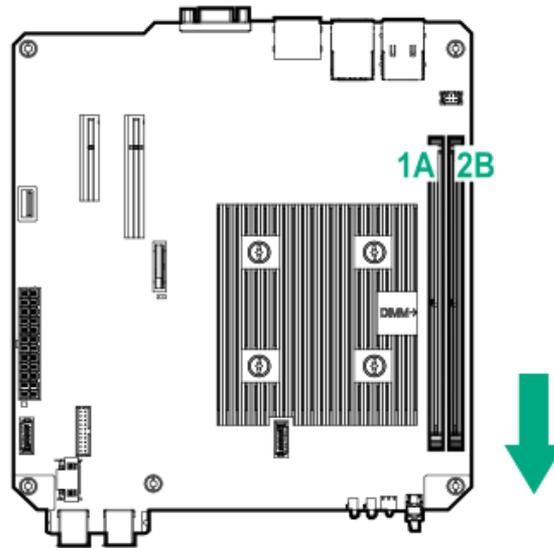
HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804394-B21
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HPE Disk Backup	<p>HP RDX+ 500GB External Backup System</p> <p>HP RDX+ 1TB External Backup System</p> <p>HPE RDX 2TB USB3.0 External Disk Backup System</p> <p>HPE RDX+ 3TB USB 3.0 External Disk Backup System</p> <p>HPE RDX+ External Docking System</p>	<p>B7B66B</p> <p>B7B69B</p> <p>E7X53B</p> <p>P9L72A</p> <p>C8S07B</p>
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HPE Rack Mount Consoles, KVM Switches, and Keyboards	HPE USB Keyboard and Mouse	
	HPE USB US Keyboard/Mouse Kit	631341-B21
	HPE USB JP Keyboard/Mouse Kit	631360-B21
	HPE USB AP/INTL Keyboard/Mouse Kit	672097-373

Memory

HPE ProLiant MicroServer Generation 10



Maximum Memory

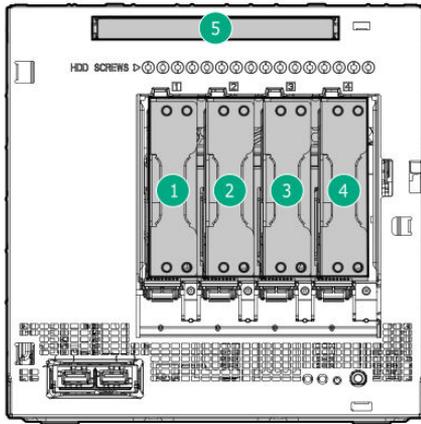
32GB of maximum memory is available with the installation of 2 x 16 GB UDIMM Memory kits.

	Memory	Slot	
		1A	2B
Standard	8 GB	8 GB	Empty
	16 GB	16 GB	Empty
Optional	16 GB	8 GB	8 GB
	32 GB	16 GB	16 GB
Maximum	32 GB	16 GB	16 GB

Following are memory options available from HPE:

HPE Memory	Unbuffered with ECC DIMMs (UDIMMs)	
HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit		862974-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2400 CAS-17-17-17 Unbuffered Standard Memory Kit		862976-B21

Storage



- 5 Media bay for optional (1) optical drive or (1) SATA SSD for boot-drive
- 1, 2, 3, 4 Four (4) non-hot plug drive bays

Drive Support

Removable Media	Quantity Supported	Position Supported	Controller
DVD-RW Drive	1	5	Integrated SATA
SATA SSD	1	5	Integrated SATA

Maximum Storage Capacity

Internal	SATA	16.0TB (4 x 4TB)
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Technical Specifications

System Unit	Dimensions (H x W x D) (with feet)	9.25 x 9.06 x 10.00 in (23.5 x 23.0 x 25.4 cm)		
	Weight (approximate)	Maximum	21.36 lb (9.70 kg)	
		(Four drives, two DIMMs, optical drive or SSD and two expansion boards installed)		
		Minimum	14.32 lb (6.50 kg)	
		(One hard drive and one DIMM installed, no media drive or expansion board installed)		
	Input Requirements (per power supply)	Rated Line Voltage	100 V AC to 240 V AC	
		Rated Input Current	3.5 A (at 100 V AC)	
		Rated Input Frequency	50 to 60 Hz	
		Rated Input Power	200W Power Supply 244 W (at 115 V AC)	
	Power Specifications	To review typical system power ratings use the Power Advisor which is available via the online tool located at URL: https://www.hpe.com/us/en/integrated-systems/rack-power-cooling.html		
Power Supply Output (per power supply)	Rated Steady-State Power	200 W Power Supply 200 W (at 100 VAC), 200 W (at 200 VAC)		
	Maximum Peak Power	200 W Power Supply 200 W (at 100 VAC), 200 W (at 200 VAC)		
System Inlet Temperature	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. NOTE: System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).			
Relative Humidity (non-condensing)	Operating	The unit shall be fully functional from 10% to 90% relative humidity, 28°C maximum wet bulb temperature, (non-condensing) across the operating temperature range of 0°C to 40°C.		
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.		
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).		
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).		

Technical Specifications

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Configuration	Lightly loaded	Heavily loaded
CPU type and quantity	AMD Opteron™ processor at 15W cTDP x1	AMD Opteron™ processor at 35W cTDP x1
DIMM type, capacity and quantity	8 GB UDIMM 2400MT/s x1	8 GB UDIMM 2400MT/s x1
HDD type and quantity	2.5" SFF NHP HDD 500 GB x1	3.5" LFF NHP HDD 500 GB x4
Idle Sound Power Level in Bels LWAd	3.8 Bels	4.0 Bels
Operating Sound Power Level in Bels LWAd	3.8 Bels	4.0 Bels
Idle Sound Pressure Level LpAm	26.0 dBA	30.4 dBA
Operating Sound Pressure Level LpAm	26. dBA	31.0 dBA

Note The listed sound levels apply to listed configurations. Additional options may result in increased sound levels. Please have your HPE Rep. refer to EMESC website for further technical details regarding the configurations listed above.

NOTE: Acoustics levels presented here accounts for test configuration only and acoustics level will vary depending on system configuration

NOTE: Values are subject to change without notification and are for reference only.

Emissions Classification (EMC)

FCC Rating	Class B
Normative Standards	CISPR32, EN55032, EN55024 FCC CFR 47, Pt15; ICES-003; CNS13438; GB9254 K32; K24; EN61000-3-2; EN61000-3-3;

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the

Technical Specifications

Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
25-Sept-2017	Version 2	Added	Smart Buy models were added to the NA version. Added a new SSD offering. Added a new networking adaptor offering. Added a new graphics accelerator offering. Added a new smart array controller offering.
5-Jun-2017	Version 1	Added	New QuickSpecs.



hpe.com/qref/microservergen10



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

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